

Pinto Valley Groundwater Basin

- Groundwater Basin Number: 7-6
- County: Riverside, San Bernardino
- Surface Area: 183,000 acres (286 square miles)

Basin Boundaries and Hydrology

This groundwater basin underlies Pinto Valley in northern Riverside County. It is bounded by nonwater-bearing rocks of the Coxcomb Mountains on the east and northwest, of the Pinto Mountains on the north, of the Eagle Mountains on the south, and of the Hexie Mountains on the west (Bishop 1963; Jennings 1967). The valley is drained eastward by the Fried Liver, Smoketree, and Porcupine Washes (Jennings 1967). Average annual precipitation ranges to 6 inches.

Hydrogeologic Information

Water Bearing Formations

Groundwater in the basin is found in alluvial deposits of Quaternary age that reach at least 575 feet in thickness. Such alluvium generally consists of lenticular beds of sand, gravel, silt, and clay, except near the mountains where it consists principally of coarse-grained angular rock detritus (DWR 1961).

Restrictive Structures

Recharge to the basin is by percolation of runoff from the surrounding mountains and precipitation to the valley floor and by underflow.

Recharge Areas

The east trending Blue Cut fault traverses the central portion of the basin; however, it is unknown whether or not this fault is a barrier to groundwater movement.

Groundwater Level Trends

In the western part of the basin, water levels in one well declined about 25 feet during 1959 through 1982. In the eastern part of the basin, water levels in a well declined about 22 feet during 1955 through 1982, then rose about 10 feet during 1983 through 1985. Groundwater moves eastward through the basin towards Chuckwalla Valley.

Groundwater Storage

Groundwater Storage Capacity. The total storage capacity is estimated at 230,000 (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (Type A)

Groundwater extractions in 1952 are estimated to have been 320 af (DWR 1975). Estimated average annual extractions are 319 af (DWR 1954).

Groundwater Quality

Characterization. In the western part of the basin, groundwater is sodium-calcium bicarbonate or calcium-sodium bicarbonate in character and ranges in TDS content from 235 to 435 mg/L. In the eastern part of the basin, groundwater is sodium sulfate in character, ranges in TDS content from 408 to 839 mg/L, and has sulfate concentrations that reach 298 mg/L. In the northern part of the basin, water from one well has a TDS content of 564 mg/L. Water from one public supply well in the basin shows an average TDS content of 300 mg/L.

Impairments. Locally, fluoride concentrations are high for domestic use and the percent sodium is high for irrigation use (DWR 1975). In the eastern part of the basin, sulfate concentrations locally exceed the MCL.

Water Quality in Public Supply Wells

Constituent Group ¹	Number of wells sampled ²	Number of wells with a concentration above an MCL ³
Inorganics – Primary	1	1
Radiological	0	0
Nitrates	1	0
Pesticides	1	0
VOCs and SVOCs	1	0
Inorganics – Secondary	1	0

¹ A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).

² Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

³ Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: to 1,480 gal/min	Average: 900 gal/min (DWR 1975)
	Total depths (ft)	
Domestic	Range:	Average:
Municipal/Irrigation	Range:	Average:

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
Department of Health Services and cooperators	Groundwater levels	1
	Miscellaneous water quality	
	Title 22 water quality	

Basin Management

Groundwater management:

Water agencies

Public

Private

References Cited

Bishop, C. C. 1963. *Geologic Map of California, Needles Sheet*. Single Map Sheet, Scale 1:250,000.

California Department of Water Resources (DWR). 1954. *Ground Water Occurrence and Quality, Colorado River Basin Region*. Water Quality Investigations Report No. 4.

_____. 1961. *Data on Water Wells in the Dale Valley Area, San Bernardino and Riverside Counties, California*. Bulletin No. 91-5.

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Jennings, C. W. 1967. *Geologic Map of California, Salton Sea Sheet*. Single Map Sheet, Scale 1:250,000.

Additional References

Kunkel, F. 1963. Hydrologic and Geologic Reconnaissance of Pinto Basin Joshua Tree National Monument, Riverside County California. U. S. Geological Survey Water Supply Paper 1475-O.

United States Bureau of Reclamation (USBR). 1968. Interim Report, Inland basins Projects, Chuckwalla Valley, California. Unnumbered Reconnaissance Investigation.

Errata

Changes made to the basin description will be noted here.